Remarks

Claims 1, 7, 8, 13 and 14 have been amended. Claims 35-58 have been withdrawn. Claims 1-34 remain in the application. Reexamination and reconsideration of the claims, in view of the discussion below, are respectfully requested.

The examiner objected to the figures for failure to include the features of claim 7. New Fig. 15, based on claim 7, is submitted with this Amendment. Applicants submit that Fig. 15 overcomes the examiner's objection.

The examiner objected to claims 8 and 14 for using definite rather than indefinite articles. Claims 8 and 14 are amended to overcome this objection.

The examiner rejected claims 7-14 under 35 U.S.C. 112, second paragraph, as being indefinite on the grounds that the features in step (ii) are indefinite in scope. To traverse this rejection, claim 7 has been amended to remove the reference to the key presses "required to display said data string on the data display means". The amended claim language requires that only those data strings having a total number of characters greater than the number of key presses are displayed. We submit that this amendment overcomes this rejection. The specification has also been amended to be consistent with the claim amendment.

The examiner rejected claims 1-6, 15-20 and 22-29 under 35 U.S.C. 102(b) as being anticipated by Grover (U.S Patent No. 5,818,437). In order further to distinguish the claimed invention from Grover, claim 1 has been amended to include the following requirement:

"*wherein the data storage means is defined by one or more data dictionaries each holding probability information relating to a given data string's historical usage, the probability information being based on statistical derivatives of language and user traits.*"

The basis for this amendment is to be found, for example, in paragraphs beginning at page 42, line 24, and page 60, line 1. These sections define the probability information as being an example of qualitative and/or qualitative information and set out the statistical derivatives relied on by the present invention.

The prior art of record fails to disclose storing probability information relating to the data string's historical usage in a data dictionary. Grover discloses displaying a list of word or text entries in a selection list menu, wherein "the default word order is by decreasing frequency of use in a representative corpus of usage" (column 8, lines 36 to 43). There is no disclosure of determining probability information based on data usage, let along storing the proability information in the data dictionaries.

The variability in language use is very high and there are multiple factors that combine to cause this variability. To correctly identify a data string that a user is likely to enter next, the present invention seeks to combine multiple underlying factors that encapsulate/represent the data strings. These factors take the form of statistical derivatives based on the data strings usage in language and the user's historical usage. The application lists statistical derivatives such as timestamp, cognitive coherence, perceptual indices, associative indices, grammar orients, correlative weights, inference ratios and pattern factorisation etc. (see, for example, in paragraphs beginning at page 42, line 24, and page 60, line 1).

To better understand the present invention, it is helpful to consider a usage scenario by way of example. A system user has entered "I love the sunny w" and intends to complete the sentence by typing "eather" next. If the system looked solely at the frequency of data string usage or selection, the system would likely rank data strings such as "we", "with", "would",

"will", etc. higher than others. Looking at bi-graphs and their lexical pattern density alone, data strings starting with "we", "wo", "wi", etc. would be ranked higher than those starting with "wa", etc.

Conversely, if only the likelihood of each of the possible data strings within a longer data string is considered, then data strings like "weather", "west", "warm", etc. would be ranked higher than others, as the preceding data string is "sunny". Looking solely at the grammatical structure of the current composition and comparing it to those commonly used in English would indicate that the data string currently being typed has a high probability of being a noun. From this perspective, "weather", "west", etc. would be ranked higher than "we", "with", "warm", etc.

As is evident from the above, considering each of the factors on their own would yield a different ranking of data strings to be predicted. In contrast, the present invention stores probability information based on several statistical derivatives. In the present example, the data string "weather" has ranked highly when considering many different factors. The stored probability information would allow the system according to the present invention to rank "weather" above others leading to the desired word.

The system according to the present invention takes into account multiple statistical derivatives, based on language and historical usage. By combining several factors, the probability information stored in the data dictionaries is a more accurate reflection of language usage and the likelihood of predicting the desired word correctly is increased.

In the light of the above discussion, we respectfully submit that amended claim 1 is not anticipated by Grover, and should be allowed. Furthermore, since claims 2-34 all depend, either

directly or indirectly, from claim 1, these claims should also be allowable. Therefore, allowance of claims 1-34 is respectfully requested.

A credit card payment submitted *via* EFS Web in the amount of $130.00, representing the fee for a large entity under 37 C.F.R. § 1.17(a)(1) for a one month extension of time is enclosed. This amount is believed to be correct; however, the Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. 14-0629.

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